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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,964	10/21/2003	Sco-Hyun Cho	1349.1308	3908
21171	7590	06/28/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			VO, ANH T N	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/688,964

Applicant(s)

CHO ET AL.

Examiner

Anh T.N. Vo

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-11 and 14 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 12 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

## CLAIM REJECTIONS

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 7-11, and 14 are rejected under 35 USC 103 (a) as being unpatentable over Lee et al. (US Pat. 6,739, 711) in view of Tajima et al. (US Pat. 6,467,890) and Koitabashi et al. (US Pat. 5,216,450).

Lee et al. disclose in Figure 2 an ink cartridge comprising:

- an air passage (44);
- a foam chamber (16) generating a negative pressure, and having foam (20) contained inside, an ink head (24) disposed therein and a lower part partially inclined;
- an ink chamber (14) storing ink, formed at one side of the foam chamber (16) and separated from the foam chamber by a partition (13) having an opening (18) to provide a connection to the foam chamber (16);

- a cartridge cover (40) having an ink injection port (42) formed thereon and covering a top of the ink chamber (14) and the foam chamber (16) wherein the foam chamber (16) has a lower part having one or more inclines;
- wherein the lower part of the foam chamber (16) is inclined downward from the opening (18) to the ink supply pipe (22);
- wherein a lower part of the foam has one or more inclines (Figure 2); and
- wherein external air forms air bubbles in the foam (16) which move toward the lower part of the foam chamber, rise up to the opening (18), and into the ink chamber (14), wherein as the air bubbles move through the compressed foam (20), the air bubbles decrease in size.

However, Lee et al does not disclose a filter is disposed on an ink supply port; a lower part of the foam is formed to be larger than an inner shape of the foam chamber, except shapes of the ink filter and the ink head, so that the foam around the ink filter is more compressed than the foam around the opening; and a foam chamber having an air path formed therein in a direction from an upper portion to a lower portion of the foam contained inside.

Nevertheless, Tajima et al disclose in Figures 10A-11 and 18-22 an ink jet cartridge comprising:

- an air path (208) and a filter (106) is disposed on an ink supply port (105) (Figure 10A); and
- a lower part of the foam (1102) is formed to be larger than an inner shape of the foam chamber (1100), except shapes of the ink filter (106) and the ink head (2000), so that the foam around the ink filter is more compressed than the foam around the opening (1300).

Furthermore, Koitabashi et al. disclose in Figures 5A-5B an ink jet head cartridge (101) comprising a foam chamber (106) having an air path (209) formed therein in a direction from an upper portion to a lower portion of the foam (107) contained inside.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Tajima et al. and Koitabashi et al. in the

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Lee et al. ink cartridge for the purpose of stably supplying ink from an ink cartridge to an ink jet head with a constant negative pressure.

*Citation of Pertinent Prior Art*


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art reference (US Pat. 6, 238, 042) cited in the PTO 892 form show an ink cartridge that is deemed to be relevant to the present invention. This reference should be reviewed.

*Allowable Subject Matter*

Claims 5-6 and 12-13 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. These claims would be allowable because none of the prior art references of record discloses an ink cartridge comprising the foam that includes a first section substantially near an ink filter, which is compressed; a second section substantially along the inclined part, which is less compressed than the first section of foam; and a third section, including foam which is substantially not in the first and second sections, which is less compressed than the second section of foam in the combination as claimed

**CONCLUSION**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262. The examiner can normally be reached on Tuesday to Friday from 9:00 A.M. to 7:0 P.M.. The fax number of this Group 2861 is (703) 872-9306.

  
ANH TIN VO  
PRIMARY EXAMINER  
June 24, 2005